

memorandum

DATE: December 10, 1997

REPLY TO: KAO/AAMLO:RJS

SUBJECT: KAO Technical Competency Review For Chemical Vulnerability Assessment

TO: Gene Runkle, Director, OSHD/AL

A requirement of the Secretary's memo of August 4, 1997 (Response to the May 14, 1997 Hanford PRF Explosion) was that DOE and contractor organizations assess staff technical competency to recognize the full range of hazards presented by the materials in their facilities, act on results, and implement training programs where needed.

The Kirtland Area Office (KAO) provides oversight of Sandia National Laboratories (SNL) environment, safety and health activities and KAO is organized along functional lines to accomplish this oversight in the most effective manner possible, given restrictions of manpower and budget allocations (organization chart attached). Under the KAO Assistant Area Manager for Laboratory Operations (AAMLO) are the ES&H Team, consisting of a safety and health subject matter expert (SME), a health physics SME, a nuclear explosive safety SME, and environmental compliance engineers. The Operations Team consists of the Facility Representatives and risk management SMEs. The Environmental Restoration/Waste Management Team is composed of environmental restoration and waste management engineers. Under the KAO Assistant Area Manager for Facilities & Project Management (AAMFPM) are the facility and project management engineers.

KAO management determines the skills needed within KAO based on mission requirements. Once a need is determined, KAO management seeks to fill that need through reallocation of existing resources and training, or, if necessary to obtain a specific skill set, seeking authority to fill a position from outside KAO. Each technical position within KAO is defined by a Position Description which details the requirements for the position, including technical skills that the incumbent brings to the position or that are acquired through training or experience. However, every KAO individual brings a different and varied background to each position and only through extensive training and experience can some skills be acquired.

KAO conducted a review of KAO technical competence related to hazardous materials process design, handling, storage and disposal. Each technical position that is currently authorized and filled was evaluated relative to the incumbent's responsibilities for SNL's hazardous materials processes oversight, as assigned by KAO management. All KAO technical personnel are degreed with work experience ranging from 2 years or less to more than 35 years. Advanced degrees and professional certifications (safety, industrial hygiene, health physics, project management, engineering) are prevalent in the technical staff. Experience and training relative to hazardous materials control ranges from a basic working knowledge and recognition of general hazards to expert knowledge of specific issues. Facility Representatives are brought into the FR program with training and experience in

Individual Responses - Areas and Project Offices

End-of-Year Report

**Provided in Response to Secretary Peña Memorandum
Dated August 27, 1997,**

**“Lessons Learned from the Emergency Response to the
May 14, 1997 Explosion at Hanford’s Plutonium
Reclamation Facility”**

1. PURPOSE

The dissemination of information concerning environmental, safety and health(ES&H) issues is important to the Department of Energy(DOE) and its contractors. The results of new studies, the discovery of previously unknown reactions, the "lessons learned" from incidents, issuance of regulatory information, and technical updates are all examples of information which should be available to DOE and contractor organizations.

This procedure applies to the Kirtland Area Office's(KAO) responsibility to provide the DOE and contractor organizations with information to develop and manage effective ES&H programs.

2. SCOPE

The policies and procedures established within this document apply to KAO's role in the oversight of Sandia National Laboratories(SNL) operations and activities at any SNL site.

3. REFERENCES

- 3.1. Secretary of Energy Memorandum, August 4, 1997, "DOE Response To The May 14, 1997 Explosion at Hanford's Plutonium Reclamation Facility.**
- 3.2. DOE-STD-7501, "Development of Lessons Learned Programs"**
- 3.3. DOE-HDBK-7502, "Implementing US DOE Lessons Learned Programs"**
- 3.4. Kirtland Area Office Environment, Safety and Health Program Manual**

4. DEFINITIONS

5. RESPONSIBILITIES

- 5.1. Assistant Area Manager for Laboratory Operations (AAMLO)**
 - 5.1.1. Transmit DOE expectations for information dissemination to KAO and appropriate SNL staff.**
 - 5.1.2. Direct KAO Laboratory Operations staff in the performance of their information dissemination responsibilities.**

- 5.1.3. Ensure that KAO Laboratory Operations staff are trained and qualified for their information dissemination responsibilities.

5.2. KAO Laboratory Operations Staff

- 5.2.1. Review ES&H information for applicability to SNL activities, analyze events, characterize studies, and, for information which SNL has not been made aware, disseminate information to SNL management.
- 5.2.2. Document information transmittal in the Kirtland Information System(KIMS) with action to follow SNL subsequent management of the information.
- 5.2.3. As part of routine oversight of contractor operations, determine if information has been received and acted on by SNL line organizations. Input oversight results in KIMS.

6. PROCEDURE

6.1. Review of Lessons Learned and Occurrence Reporting Programs

- 6.1.1. KAO Laboratory Operations personnel will, at least annually, review site lessons learned and occurrence reporting programs to assure that 1) outgoing information is well characterized and properly summarized, and 2) incoming information is thoroughly evaluated, properly disseminated, appropriately implemented, and tracked through formal management systems.
- 6.1.2. KAO Laboratory Operations personnel will place results of program reviews into KIMS with appropriate tracking of corrective actions and follow-up.

6.2. KAO Review and Dissemination of ES&H Information

- 6.2.1. KAO Laboratory Operations personnel will routinely review and characterize occurrence reports, safety and health bulletins, technical literature, published studies of an ES&H nature, and regulatory actions.
- 6.2.2. Information considered to have actual or potential impact on SNL present or future activities, and which SNL management has not been made aware of through alternate means, will be formally transmitted to SNL management with a request for further dissemination and action. Laboratory Operations personnel will ensure that KAO FRs and SMEs are apprised of this information. Information for FRs should be sent to the "required reading" coordinator. Information for SMEs should be circulated to the

appropriate SME. The transmittal should be documented in KIMS, with appropriate follow-up.

1. PURPOSE

The Secretary of Energy, in a memorandum dated August 4, 1997, required that the Department of Energy (DOE) manage its sites such that vulnerability to hazardous materials are assessed, that hazardous materials are handled, stored, and disposed of in safe and environmentally sensitive processes, that DOE and contractor personnel responsible for hazardous material safety are technically competent, and that events involving hazardous materials are sufficiently characterized and analyzed, information is evaluated and disseminated, and that actions are taken to insure implementation of appropriate mitigating activities.

This procedure applies to the Kirtland Area Office's (KAO) responsibility in implementing the Secretary's directives through KAO's role of oversight of the Sandia National Laboratories (SNL) activities, at any site where those activities take place.

2. SCOPE

The policies and procedures established within this document apply to KAO's role in the oversight of SNL operations involving hazardous materials or processes, at any site where SNL conducts these activities.

3. REFERENCES

- 3.1. Secretary of Energy Memorandum, August 4, 1997, "DOE Response To The May 14, 1997 Explosion at Hanford's Plutonium Reclamation Facility.**
- 3.2. DOE Order 232.1, Occurrence Reporting and Processing of Operations Information.**
- 3.3. DOE Order 5480.19, Conduct of Operations Requirements for DOE Facilities.**
- 3.4. Accident Investigation Report, DOE/RL-97-59, Chemical Explosion at The Plutonium Reclamation Facility, Hanford Site, Richland, WA.**
- 3.5. Kirtland Area Office Facility Representative Program Manual.**
- 3.6. Kirtland Area Office Environment, Safety and Health Program Manual.**
- 3.7. Kirtland Information Management System (KIMS)**

- 3.8. SNL Report of December 10, 1997, (Jones - Zamorski), "Chemical Vulnerability Assessment"

4. DEFINITIONS

- 4.1. *Hazardous Materials:* Any material or substance, (organic, inorganic, biological, radiological) which may have the potential, either singularly or in combination, for fire, explosion, toxic release, environmental contamination, or, if uncontrolled, in any way compromise human health or safety.

5. RESPONSIBILITIES

- 5.1. **Assistant Area Manager for Laboratory Operations (AAMLO)**
- 5.1.1. Transmit DOE expectations for hazardous materials management to appropriate SNL management staff.
 - 5.1.2. Direct DOE Laboratory Operations staff in the performance of their hazardous materials oversight responsibilities.
 - 5.1.3. Ensure that Laboratory Operations staff are trained and qualified for their hazardous materials oversight responsibilities or that appropriate support is provided from other DOE resources.
 - 5.1.4. Provide for review and concurrence with SNL actions for the safe handling, storage or disposal of hazardous materials.
 - 5.1.5. Provide for appropriate characterization, dissemination, and implementation of hazardous materials information or "lessons learned". (KAO-4227)
- 5.2. **Assistant Area Manager for Facilities and Project Management (AAMFPM)**
- 5.2.1. Transmit DOE expectations for control of hazardous materials or processes through facilities design, construction, or modification to appropriate SNL management staff.
 - 5.2.2. Direct DOE Facilities and Project Management staff in the performance of their design, construction and modification oversight responsibilities.
 - 5.2.3. Ensure that Facilities and Project Management staff are trained and qualified to perform hazardous materials or process design, construction and modification oversight responsibilities, or that appropriate support is provided through other DOE resources.
 - 5.2.4. Ensure appropriate DOE review and approval of line item project design, construction or modifications relative to hazardous materials safety.

- 5.3. Facility Representatives (FR) and Subject-Matter Experts (SME)**
 - 5.3.1.** Provide continuous review of contractor process hazards and the handling, storage and disposal of hazardous materials and insure the safe and environmentally compliant control of hazards.
 - 5.3.2.** Document reviews and comments in the Kirtland Information Management System (KIMS) for appropriate action and tracking.
 - 5.3.3.** Provide appropriate Assistant Area Manager (AAM) with information and recommendation for approval action on contractor hazardous materials program management.
 - 5.3.4.** Develop and maintain technical competency to identify and manage hazardous materials or processes. Identify to the appropriate AAM those processes or materials for which additional DOE oversight resources may be required.

6. PROCEDURE

6.1. Assessment of Hazardous Materials Vulnerabilities

- 6.1.1.** KAO FRs and SMEs will review submittal of the SNL self-assessments which detail the status of facilities which have been shutdown, are in standby, are being deactivated, or have otherwise changed their conventional mode of operation. The SNL assessments will include the status of known vulnerabilities, evaluate hazardous material residuals, validate current characterizations, and outline disposal options. KAO will validate the assessment through a sampling of SNL sites to determine if SNL's conclusions and actions are appropriate.
- 6.1.2.** KAO FRs and SMEs will review the assessments in which SNL will provide a description of the systems and management processes which are in place at active sites to continuously identify any potential chemical vulnerabilities that may be brought on site. SNL will, at the same time, provide a plan for completion of systems that are currently being implemented or tested to control hazardous materials and provide a report on a spot-check of current systems/processes to ensure that they are effective in hazard control. KAO will validate the report through a sampling of SNL active sites and systems/processes to determine if the SNL conclusions and actions are appropriate.
- 6.1.3.** KAO FRs and SMEs will review the results of previous appraisals of SNL technical competency as it relates to hazard control, including SNL's check of training records. KAO will validate the appraisals and records review through a sampling of training records and personal contacts during the other validation exercises.

- 6.1.4. KAO FRs and SMEs will monitor the performance of SNL "Lessons Learned" processes to determine if Occurrence Reports, Safety Notices, Accident Reports, and other available documentation is being appropriately analyzed, disseminated and acted on. KAO will validate this process through observation and personal contacts during other validation exercises.
- 6.1.5. KAO FRs and SMEs will provide results of their validation process through KIMS entries, detailing the facilities, the activities and the SNL actions to insure hazard mitigation.
- 6.1.6. KAO FRs and SMEs will continue to provide oversight of SNL hazardous materials processing, handling, storage and disposal through routine site walkthroughs, evaluation of safety documentation, targeted reviews, and personal contacts. Oversight should include assessment of SNL technical competencies as they relate to control of hazardous materials and the effectiveness of "lessons learned" programs. FRs and SMEs should continue to place reports of activities into KIMS and the make the appropriate AM aware of issues.